

Claims

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1. A portable device for oral administration of a fluid source to an animal,
said device comprising

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- i) a hollow, axially-elongated member comprising
 - a) a distal end comprising a first opening, preferably in the form of a nozzle portion, and
 - b) a proximal end comprising a second opening connected to

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- ii) a handle comprising
 - a) a distal portion connecting the handle to said axially-elongated member, and
 - b) a proximal portion connecting the handle to

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- iii) a flexible tube comprising
 - a) a distal end comprising a first opening connected to the handle, and
 - b) a proximal end comprising a second opening connected to

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- iv) a hollow adaptor capable of attaching the flexible tube to a fluid source container, said adaptor comprising
 - a) a distal end comprising a first opening, said distal end capable of securing attachment of said adaptor to the tubing, and
 - b) a proximal end comprising a second opening, said proximal end capable of bringing the adaptor in contact with the fluid source stored in

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- v) said device further comprising a switch mechanism for regulating the flow of liquid through the axially-elongated member,

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wherein the fluid source of the device is stored in a container insert in the form of a disposable, flexible polymer bag, said

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10. The device according to claim 9, wherein the polymer is polypropylene or polyethylene.
- 5 11. The device according to any of the preceding claims, wherein the length of the axially-elongated member from the tip of the nozzle portion to the distal portion of the handle is from 30 cm to 34 cm, such as about 32 cm.
- 10 12. The device according to any of the preceding claims, wherein the inner diameter of the axially-elongated member excluding the nozzle portion is from 0.5 cm to 2 cm, such as about 0.8 cm, for example about 1.0 cm, such as about 1.2 cm, for example 1.5 cm.
- 15 13. The device according to claim 12, wherein the outer diameter of the axially-elongated member excluding the nozzle portion is from 0.2 cm to about 1 cm larger than the inner diameter of the rest of the axially-elongated member.
- 20 14. The device according to any of the preceding claims, wherein the switch mechanism for regulating the flow of fluid source through the axially-elongated member is comprised in the handle.
- 25 15. The device according to claim 14, wherein the switch mechanism is manually operated.
- 30 16. The device according to any of the preceding claims, wherein the switch mechanism comprises a valve.
17. The device according to any of the preceding claims, wherein the switch mechanism comprise a sliding valve.
18. The device according to any of the preceding claims, wherein the shape and size of the handle prevents it from being inserted into the mouth of the animal thereby preventing the axially-elongated member from reaching beyond a predetermined region of the esophagus.

19. The device according to any of the preceding claims, wherein the handle is hollow.

5 20. The device according to any of the preceding claims, wherein the handle is detachably connected to the axially-elongated member.

21. The device according to any of the preceding claims, wherein the handle consists of at least two detachable parts.

10 22. The device according to any of the preceding claims, wherein the adaptor comprises a tapering end.

23. The device according to claim 22, wherein the tapering end is capable of penetrating said container insert.

15 24. The device according to claim 23, wherein said adaptor further comprises a shoulder distal to said tapering end for providing a tight connection between the adaptor and said container insert.

20 25. The device according to any of claims 22 to 24, wherein said adaptor further comprises a plurality of locking pins for securing the attachment of the adaptor to said fluid source container.

25 26. The device according to any of claims 22 to 25, wherein said adaptor further comprises two oppositely located planar flanges for rotating the adaptor into locking position once it has made contact with the fluid source container.

30 27. The device according to any of the preceding claims, wherein said adaptor further comprises a portion for detachably connecting the adaptor to a cleaning device.

35 28. The device according to claim 27, wherein said cleaning device is a water tap optionally fitted with a hosepipe adaptor capable of detachably connecting the water tap to the adaptor of the device.

29. The device according to claims 1, wherein said container further comprises means for engagement of said adaptor on the inside of said at least one attachment site.

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30. The device according to any of claims 1 to 29, wherein said container further comprises one or more means for transporting the device by the operator.

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31. The device according to claim 30, wherein said means for transporting enable the operator to carry the container on his back.

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32. The device according to any of claims 1 to 32, wherein the container comprises a single polymer sheet capable of folding into a container, said polymer sheet comprising

a first wall portion, a second wall portion, and a base portion

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wherein the first wall portion is permanently fixed to said second wall portion along a single first axis,

wherein said first wall portion is permanently fixed to a base portion along a single second axis,

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wherein said second wall portion is detachably fixed to said first wall portion along a single third axis,

and wherein said second axis connects said first and third axes.

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33. The device according to any of claims 1 to 32, wherein said container is capable of being unfolded into an essentially planar sheet when not in use.

34. The device according to any of claims 1 to 33, wherein the container insert is disposable.

35. A method for oral administration of a fluid or liquid source to an animal, said method comprising the steps of

i) providing a fluid or liquid source,

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ii) providing a device according to any of the previous claims

iii) filling said container insert of the device with said fluid or liquid source, and

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iv) administering said fluid or liquid source to said animal, optionally by operating said switch mechanism.

36. The method according to claim 35, wherein said device is according to any of claims 1 to 34.

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37. The method according to claim 36, wherein the liquid source is selected from the group consisting of colostrum, aqueous solutions of nutrients or electrolytes, aqueous solutions of medicaments and the like.

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38. The method according to claim 37, wherein the liquid source is colostrum.

39. The method according to claim 38, wherein the colostrum is obtained from a domestic animal, including a bovine species.

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40. The method according to claim 39, wherein the domestic animal is a ruminant.

41. The method according to claim 40, wherein the ruminant is a bovine species.

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42. The method according to claim 41, wherein the bovine species is selected from the group consisting of Holstein and Jersey.

43. The method according to any of claims 41 or 42, wherein the bovine species is a newly born bovine species less than twenty days old.

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44. The method according to claim 43, wherein the bovine species is a newly born bovine species less than fifteen days old.

5 45. The method according to claim 44, wherein the bovine species is a newly born bovine species less than ten days old.

46. The method according to claim 45, wherein the bovine species is a newborn bovine species less than five days old.

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47. A method for conferring passive immunity to a newly born domestic animal, said method comprising the steps of

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i) providing a passive immunity source, such as immunoglobulins,

ii) providing a device according to any of claims 1 to 34,

iii) filling said container insert of the device with said passive immunity source, and

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iv) administering said passive immunity source to said bovine species, optionally by operating said switch mechanism.

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48. The method of any of claims 36 to 47, wherein the device used is according to any of claims 1 to 34, and wherein the size of the nozzle allows the operator of the device to determine the present position of the nozzle in the esophagus from the outside of the animal by pressing said nozzle portion against the inside wall of the esophagus.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/DK 03/00533

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3 774 608 A (WOHLER W) 27 November 1973 (1973-11-27)	14-17, 19, 23-28, 57-60, 62,66-70
A	column 2, line 58 -column 4, line 59; figure 1	83-86
Y	GB 727 959 A (DRUG HOUSES OF AUSTRALIA LTD) 13 April 1955 (1955-04-13)	14,18, 20, 30-32, 57,61, 63,72-74
A	page 1, line 61 -page 2, line 34	83-86
A	US 4 773 898 A (BEGOUEN JEAN-PAUL) 27 September 1988 (1988-09-27)	1-13, 26-28, 30,31, 56, 68-70, 72,73, 83-86
A	column 4, line 16 - line 45; figure 8	1-44, 56-83
A	GB 2 234 484 A (COOPERS ANIMAL HEALTH) 6 February 1991 (1991-02-06) the whole document	1-44, 56-83
A	GB 2 150 814 A (ALEXANDER ALAN MOANA) 10 July 1985 (1985-07-10) the whole document	1-44, 56-83

INTERNATIONAL SEARCH REPORT

International application No.
PCT/DK 03/00533

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-47 and 56-87

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-47 and 56-87

A first (group of) invention(s) relating to devices and methods for administration of a fluid source to an animal, as specified in claims 1-47 and 56-87.

2. Claims: 48-55

A second invention relating to a container, as specified in claims 48-55.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/DK 03/00533

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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